

isc Silicon NPN Darlington Power Transistor

2SD2141

DESCRIPTION

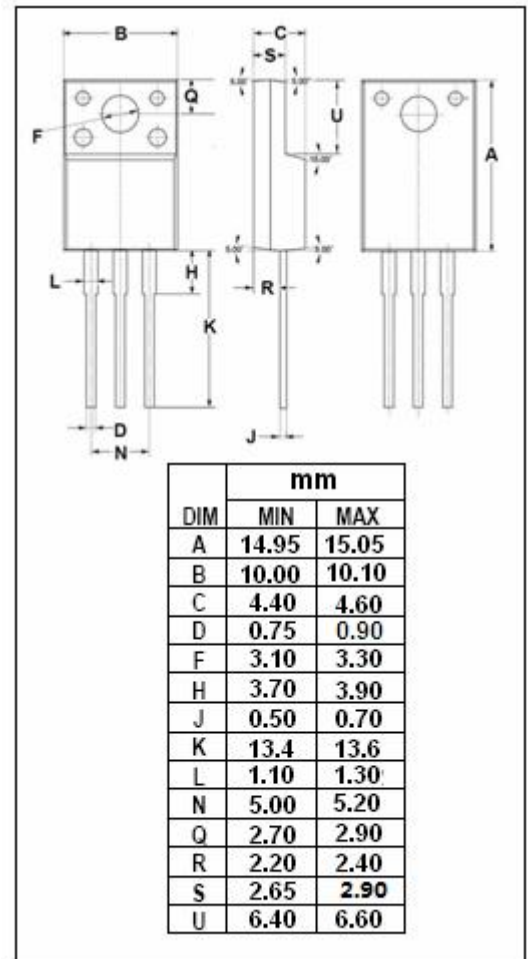
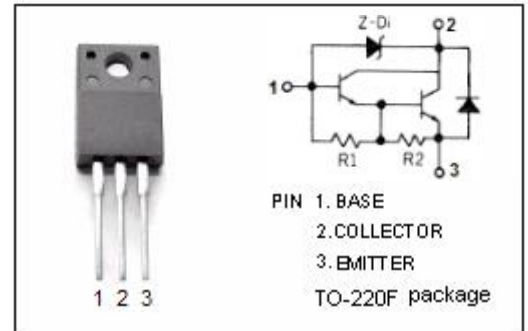
- High DC Current Gain-
: $h_{FE} = 1500(\text{Min}) @ I_C = 3A$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = 1.5V(\text{Max}) @ I_C = 4A$
- Incorporating a built-in zener diode
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in ignitor, driver for solenoid, motor and general purpose applications

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	330-430	V
V_{CEO}	Collector-Emitter Voltage	330-430	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Base Current-Peak	10	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	35	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



isc Silicon NPN Darlington Power Transistor**2SD2141****ELECTRICAL CHARACTERISTICS** $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=25\text{mA}; I_B=0$	330		430	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=0.1\text{mA}; I_E=0$	330		430	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=20\text{mA}; I_C=0$	6			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=20\text{mA}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=4\text{A}; I_B=20\text{mA}$			2.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=330\text{V}; I_E=0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			20	mA
h_{FE}	DC Current Gain	$I_C=3\text{A}; V_{CE}=2\text{V}$	1500			
f_T	Current-Gain—Bandwidth Product	$I_E=0.5\text{A}; V_{CE}=12\text{V}$		20		MHz
C_{OB}	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1.0\text{MHz}$		95		pF

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